

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of

Chin-Sung Liu, et al.

Serial No. 09/711,524

Group Art Unit: 2834

Filed: November 14, 2000

Examiner: B. S. Mullins

For: ELECTROMAGNETIC ACTUATOR HAVING SPECIAL COIL ARRANGEMENT  
FOR IMPROVING UTILIZATION RATE OF MAGNETIC CIRCUIT THEREFOR**AMENDMENT**ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated October 1, 2002, please amend the application as follows.

**IN THE DRAWINGS**

Please amend the drawings as shown in red on the attached sheets.

**IN THE SPECIFICATION**

Please amend the specification as follows.

Page 4, delete last paragraph (lines 14-27) continuing onto page 5, lines 1-3 and replace as follows:

--According to a second aspect of the present invention, an electromagnetic actuator is provided for moving an object along a first direction and a second direction. The electromagnetic actuator includes a magnetic force line generator including two homopolar parts spaced with a clearance small enough for generating magnetic force lines including a first substantially linear portion and a second substantially linear portion due to a repelling force between the two homopolar parts, wherein the first and second substantially linear portion are not parallel; a first actuating coil set connected to the object and arranged around the magnetic force line generator with a coil wall thereof substantially perpendicular to the first substantially linear portion for moving the object in the first direction in response to a